

use of aspirin for treatment of rhinosinusitis and asthma is currently undergoing further evaluation.

DONALD D. STEVENSON, MD

REFERENCES

Mathison DA, Stevenson DD: Hypersensitivity to nonsteroidal antiinflammatory drugs: Indications and methods for oral challenge. *J Allergy Clin Immunol* 1979 Dec; 64:669-774

Pleskow WW, Stevenson DD, Mathison DA, et al: Aspirin desensitization in aspirin-sensitive asthmatic patients: Clinical manifestations and characterization of the refractory period. *J Allergy Clin Immunol* 1982 Jan; 69(1):11-19

Spector SL, Wangaard CH, Farr RS: Aspirin and concomitant idiosyncrasies in adult asthmatic patients. *J Allergy Clin Immunol* 1979 Dec; 64(6):500-506

Stevenson DD: If aspirin provokes an asthma attack. *J Respir Dis* 1981 Mar; 2:63-76

**Exercise-Induced Anaphylaxis**

ANAPHYLAXIS IS AN ACUTE, potentially fatal, multisystem reaction characterized by urticaria, angioedema, bronchospasm, hypotension and abdominal cramps. In most cases the reaction is caused by IgE antibody-mediated release of histamine and SRS-A (slow-reacting substance of anaphylaxis), which increase vascular permeability and cause contraction of smooth muscle in the target organs. The allergen is most often a food, drug or insect venom. Non-IgE antibody-mediated activation of vasoactive peptides, kinins or complement-derived anaphylatoxins C5a or C3a might play a role in some instances of anaphylaxis. *Anaphylactoid* reactions refer to nonimmunologic release or activation of mediators such as occurs in the systemic reactions to aspirin or iodinated radiographic contrast media.

The allergen causing anaphylaxis is usually readily apparent from the rapid onset of symptoms following exposure. If the cause is not obvious from the initial evaluation, careful follow-up with appropriate tests will reveal the responsible allergen in most cases. Nevertheless, some patients have recurrent episodes of anaphylaxis that are idiopathic.

Anaphylaxis in athletes, induced by physical exercise, was recently described. The symptoms and signs of the reaction are identical to those in allergen-induced anaphylaxis and are severe enough in some cases to be considered life-threatening. Most of these persons are in their late teens or early 20's, and in some cases frequent attacks had occurred over a number of years. A personal or family history of atopic disease is common but not universal in this group of patients.

The mechanism of exercise-induced anaphylaxis and its relationship to cholinergic urticaria are unknown. The latter condition is characterized by the appearance of small cutaneous wheals with

itching following exercise, overheating or emotional stress. Two patients with exercise-induced anaphylaxis had skin lesions typical of cholinergic urticaria, hypotension, angioedema and elevation of plasma histamine levels during an attack. In patients with exercise-induced anaphylaxis, however, symptoms are not precipitated by heat or stress.

Exercise-induced anaphylaxis does not appear to be related to exercise-induced asthma, a characteristic feature in nearly all asthmatic patients. Most patients with exercise-induced anaphylaxis have no history of asthma.

Treatment with epinephrine, antihistamines and fluid replacement appears to be as effective in this condition as in the allergic form of anaphylaxis. Pharmacologic preventive measures have not yet been evaluated. Regular, repeated exercise by one patient resulted in progressive diminution of symptoms and in vivo histamine release, although similar attempts at exercise "desensitization" in other patients have been unsuccessful. Until the cause of exercise-induced anaphylaxis is clarified, patients should modify their exercise program to minimize the recurrence of these reactions.

ABBA I. TERR, MD

REFERENCES

Kaplan AP, Natbony SF, Tawil AP, et al: Exercise-induced anaphylaxis as a manifestation of cholinergic urticaria. *J Allergy Clin Immunol* 1981 Oct; 68(4):319-324

Lieberman P, Taylor WW Jr: Recurrent idiopathic anaphylaxis. *Arch Intern Med* 1979 Sep; 139(9):1032-1034

McFadden ER Jr, Ingram RH Jr: Exercise-induced asthma: Observations on the initiating stimulus. *N Engl J Med* 1979 Oct 4; 301(14):763-769

Sheffer AL, Austen KF: Exercise-induced anaphylaxis. *J Allergy Clin Immunol* 1980 Aug; 66(2):106-111

**Standardization of Allergens**

STANDARDIZED EXTRACTS of allergens should have lot-to-lot consistency and contain the allergens responsible for eliciting an allergic response. In general, such extracts will have a labeled potency and will be equivalent to a reference preparation. The expiration date for standardized extracts is established by stability studies and varies with the concentration.

The need for standardization has been amply shown by published studies describing as much as a thousandfold variation in skin test reactivity among commercial extracts. Extracts of low potency are not necessarily low in allergen content but may be lacking one or more important allergens or may contain badly degraded allergens. Consequently, using nonstandardized extracts can